Note

Important /Note!
Read the operating instructions.

Consult instructions thoroughly before use.

Classification:
- Internally powered equipment
- BF type applied part
- IPX0
- Not suitable for use in presence of flammable anaesthetic mixture with air or with Oxygen or nitrous oxide
- Continuous operation with short-time loading

To avoid inaccurate results caused by electromagnetic interference between electrical and electronic equipments, do not use the device near a cell phone or microwave oven.

Discard the used product to the recycling collection point according to local regulations.

Limited Warranty

This device is warranted to be free from manufacturing defects for a period of 2 years from the date of purchase. Within the warranty period, should there be any manufacturing defect found and repair is needed, please contact your local distributor accordingly.
Please note warranty does not cover damage caused by, including but not limited: misuse or abuse; accident; the attachment of any unauthorized accessory; alteration to the product; improper installation; unauthorized repair or modification; improper use of electrical/ power supply; dropped product; failure to follow required maintenance and sake-keeping; transportation damage.
To ensure precise measurement reading, recalibration of the device is recommended after 2 years from the date of purchase. Shipping plus handling cost and recalibration service fee shall be charged accordingly.

Note!

This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television receptions, which can be determined by turning the equipment off and on.The user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Appendix

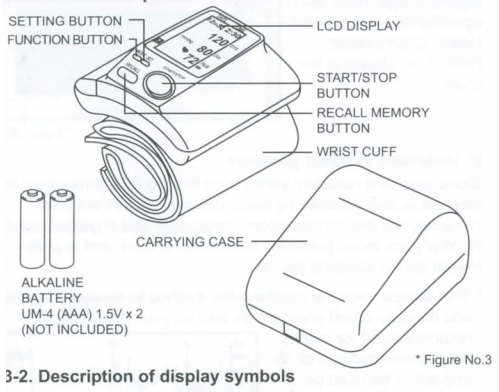
Guidance and manufacturer's declaration – electromagnetic emissions

The device is intended for use in the electromagnetic environments listed below, and should only be used in such environments:

Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	RF energy is used only to maintain device's operation. Therefore, its RF emissions are so low that it's not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The device is suitable for use in all establishments, including domestic establishments, and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Not Applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not Applicable	

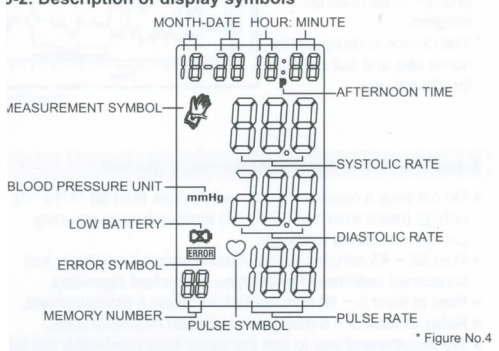
3. Device Description

3-1. Name of the parts



* Figure No.3

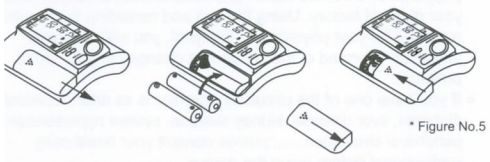
3-2. Description of display symbols



* Figure No.4

4. Inserting/ Changing Batteries

When the low battery symbol appears on the display, please change the batteries.
Replace all the batteries with new ones and do not mix new and old batteries. Do not mix alkaline, standard (carbon-zinc) or rechargeable (cadmium) batteries either. It may shorten the battery life or cause the device to malfunction.
Remove the battery cover at the side of the unit and insert 2 AAA alkaline batteries into the battery compartment as shown. Make sure the polarities "+" and "–" ends are properly positioned.



* Figure No.5

Attention!
- Batteries are hazardous waste. Do not dispose of them together with the household garbage. Please take the used batteries to the recycling collection point according to your local regulations.
- Keep the battery away from small children.
- To prolong the battery life and prevent damage caused by leakage, remove the batteries from the device if the device is not to be used for a long period.
- After replacing the batteries, reset the date and time.
- All batteries used must be the same type. Do not mix alkaline, standard(carbon-zinc) or rechargeable (cadmium) batteries.
- Do not mix old and new batteries.

Guidance and manufacturer's declaration – electromagnetic immunity

The device is intended for use in the electromagnetic environments listed below, and should only be used in such environments:

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Guidance and manufacturer's declaration – electromagnetic immunity

The device is intended for use in the electromagnetic environments listed below, and should only be used in such environments:

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
			Portable and mobile RF communications equipment should be used no closer to any part of the device, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance**
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	$d = 1.2\sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	$d = 1.2\sqrt{P}$ 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz

where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m).
Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,a should be less than the compliance level in each frequency range.b
Interference may occur in the vicinity of equipment marked with the following symbol:

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the device is used exceeds the applicable RF compliance level above, the device should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the device.
b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communication equipment and the device.

The device is intended for use in an electromagnetic environment where radiated RF disturbances are under control. User can help prevent electromagnetic interference by keeping the device at a minimum distance from portable and mobile RF communications equipment (transmitters). Below table details the maximum output power of transmitter:

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1.2\sqrt{P}$	80 MHz to 800 MHz $d = 1.2\sqrt{P}$	800 MHz to 2.5 GHz $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.
NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Manufactured for:
JOBAR INTERNATIONAL INC.
Carson, CA 90745
Made In China

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P/N:323102000 VER:001

5. Attaching Pressure Cuff

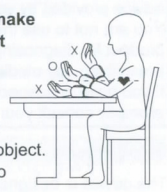
5-1. Do not place the pressure cuff over a jacket or sweater sleeve. Wrap the pressure cuff around the bare wrist with the monitor facing you.
5-2. Wrap the cuff snugly. Do not make it too tight.
Fold the remaining part of the cuff back out of the way.
5-3. Leave approximately 10 mm (Approx. 0.4 inch) between the cuff and the bottom of your hand palm.

* Figure No.6

Note!
- Do not use this device if your wrist has any wound or injury.
- Do not wrap the cuff around any body part other than your wrist.

6. Correct Measurement Position

6-1. To get accurate measurements, make sure the cuff is at the same height as the heart.
Having the cuff higher or lower may cause inaccurate results.
6-2. Measurement while sitting down:
A. Place your elbow on a table or other object.
B. Use the armrest to position the arm so that the pressure cuff is at the same height as the heart.
C. Relax your hand with the palm facing up.



* Figure No.7

7. How to Measure

7-1. Inserting batteries in position:
A. Open battery cover.
B. Refer to the picture in positioning batteries. (Figure No.5)
C. All segments will appear on the display in 3 seconds.
D. Display 1month 1 date, 12 hour 0 minute.

7-2. Setting Date and Time:
A. Press " MODE " button ("month" starts flashing)
Press " SET " button to set the correct month (1,2,3,.....12)
B. Press " MODE " button again ("date" starts flashing)
Press " SET " button to set the correct date
C. Press " MODE " button again ("hour" starts flashing)
Press " SET " button to set the correct hour in 12-hour format
D. Press " MODE " button again ("minute" starts flashing)
Press " SET " button to set the correct minute (0,1,2,3,.....59)
E. Press " MODE " button again to switch to normal time (month, date, hour and minute appear on the display)

7-3. Steps to take blood pressure measurement:
A. Wrap the cuff around the wrist (Refer to Wrapping of Wrist cuff as Figure No. 6)
B. Sit upright on the chair to have correct posture. (Refer to Correct Posture in Taking Blood Pressure as (Figure No. 7)
C. Press" START/STOP "button. All elements display '888' in 3 seconds. Afterward, displays the update time. The measuring blood pressure symbol will flash on the display and then the air pressure will automatically pump up to 195 mmHg. If blood pressure tends to be on the high level, the air pressure will automatically increase to the required level for measurement.

Instruction Manual

Wrist Type Blood Pressure Monitor

Model TV3649

Medical Disclaimer

This manual and product are not meant to be a substitute for advice provided by your doctor or other medical professional. You are not to use the information contained herein, or this product for diagnosing or treating a health problem or prescribing any medication.
If you have or suspect that you have a medical problem, promptly consult your healthcare provider.

Blood Pressure Monitor Intended Use

The device is designed for non-invasive measurements and monitoring of adults' arterial blood pressure. It measures human's systolic blood pressure, diastolic blood pressure and heart pulse rate on wrist by oscillometric measurement method. The device is recommended for use by people over the age of 18 and is for home use and not clinical use.

Attention!
To operate the device properly and get the best result from it, please read the Instruction Manual thoroughly before you begin measuring and keep it carefully so that you can access and consult it at any time.

1. About Blood Pressure

1-1. What is blood pressure ?
Blood pressure is a measurement of the force of blood flowing against the walls of the arteries. Arterial blood pressure is constantly changing during the course of the cardiac cycle. The highest pressure in the cycle is called the systolic blood pressure and the lowest is the diastolic blood pressure. Both of pressure readings, the systolic and the diastolic, are necessary to enable a physician to evaluate the status of a patient's blood pressure.
Many factors such as physical activity, anxiety or the time of day can influence your blood pressure. Blood pressure is typically low in the morning and increases from the afternoon to the evening. It is lower in the summer and higher in the winter.

1-2. Why is it useful to measure blood pressure at home?
Having one's blood pressure measured by a doctor in a hospital or a clinic, and a group health checks, tends to stimulate nervousness in the subject and may even create high blood pressure, blood pressure also varies in accordance with a variety of conditions and so judgment is not possible on the basis of a single measurement.
The blood pressure measured first thing in the morning after getting up, before taking any food and with the subject still, is known as the fundamental blood pressure. In practice it is rather difficult to record the fundamental blood pressure, but to come as near as possible to measuring the blood pressure in an environment that is close to this is why it is useful to take the measurement at home.

* Do not move or talk in the midst of taking blood pressure measurement.

D. After the air pressure is increased, it will slowly decreased. When the pulse rate is detected, HEART RATE ♥ symbol will start flashing.

Note!
If the cuff does not stop inflating, remove the cuff at once.

E. After taking blood pressure measurement, the Systolic rate, Diastolic rate will be lasting flash on the display for 1 minute.

7-4. Storing, recalling and erasing measurement data:

A. Storing data:

After each blood pressure measurement, the Systolic rate, diastolic rate, heart pulse rate and the time & date of specific day will be automatically stored. The memory holds the latest 99 measurement data. If more than 99 measurements, the memory will automatically clear out the earliest data.

B. Recalling data:
- Pressing "RECALL" button at normal time, nothing will appear on the display if there is no data in the memory.
If there is data in the memory, the latest recorded set of measurement which are the Systolic rate, Diastolic rate, heart pulse, including the recording time and date, will appear and lasting on the display for 1 minute. (60 sec)
- Press " RECALL " button to read the next line of stored data. The data called up on the display is numbered accordingly. After reading the recalled data as rotator 99-set of the stored data, press " RECALL " to switch to normal time.
- To discontinue in the midst of reading of the data, press "START/STOP" button to power off.

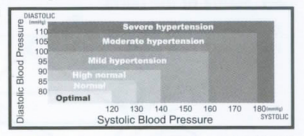
C. Erasing data:
- Take out the batteries and then refill 2 pcs batteries again.
- To discontinue if the data is erased. Press "RECALL" button, no data should show up on the screen.

8. Maintenance

8-1. Use a piece of cloth with water or mild cleansing agent to wipe the device and dry it immediately with a dry cloth.
8-2. Do not use detergent or any strong chemicals to clean the device.
8-3. Use only a dry cloth to wipe the cuff.
8-4. If the device is not to be used for a long time, please remove the batteries from the device (leaking of battery acid can cause the device to malfunction).
8-5. Do not in any way twist the cuff.
8-6. Do not press the START button if the cuff is not wrapped around the wrist.
8-7. Do not drop the product and avoid any strong impacts.
8-8. Do not attempt to disassemble or change any parts of the monitor, including wrist cuff, due to substitution of a component different from that supplied might result in measurement error.
8-9. If any suggestion or service is requested, please consult your service station.
8-10. Do not place the device directly under sunlight, in high temperature, or in humid or dusty places.
8-11. Do not store the device in extremely low (less than -4 °F/ -20 °C) or high (more than 158 °F/ 70 °C) temperature.

A. WHO blood pressure classifications

Standards for assessment of high or low blood pressure without regard to age, have been established by the World Health Organization (WHO), as shown in the chart.

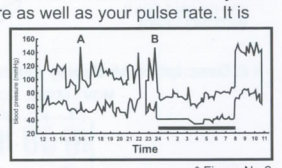


* Figure No.1

B. Variations in blood pressure

Blood pressure naturally varies from time to time throughout the day and is also affected by many different factors such as smoking, alcohol consumption, medication and physical activity. Normally the blood pressure rises while at work and is at its lowest during sleeping period.

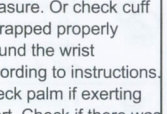
* This device uses the oscillometric method to measure systolic and diastolic blood pressure as well as your pulse rate. It is recommended for use by people over the age of 18 and not to be used on children.
* The device is designed for home use and not suitable for clinical use.



* Figure No.2

2. Important information before use of the unit

- Do not take a measurement in a low (less than 50 °F/10 °C) or high (more than 104 °F/40 °C) temperature or you may get the inaccurate readings.
- Wait 30 ~ 45 minutes before measurement if you have just consumed caffeinated beverages or smoked cigarettes.
- Rest at least 5 ~ 10 minutes before taking a measurement.
- Relax at least 3 ~ 5 minutes in between measurements.
- We recommend you to use the same wrist (preferably the left wrist) and to measure around the same time each day.
- Sit down comfortably and place your elbow on the table with your feet at on the floor.
- Keep the device at heart level. Relax your hand with the palm facing up.
- Perform measurements in a quiet and relaxed environment at room temperature.
- Do not move or shake the device during a measurement.
- Blood pressure measurements should be interpreted by a physician or a trained health professional who is familiar with your medical history. Using the unit and recording the results regularly for your physician to interpret, you will keep your physician informed of the continuing changes in your blood pressure.
- If you have one of the circulatory problems as arteriosclerosis, diabetes, liver disease, kidney disease, severe hypertension, peripheral circulation....., please consult your healthcare professional before using the device.
- Blood pressure measurements taken with this device are equivalent to those obtained by a trained observer using the cuff / stethoscope auscultation method and are within the accuracy limits prescribed by the American National Standard for Electronic or Automated Sphygmomanometers.



* Do not use this manual and product as a substitute for advice, diagnosing or treating a health problem or prescribing any medication by your doctor. If you have a medical problem, promptly consult your healthcare provider.
* Read the Instruction Manual thoroughly before measuring and keep it at hand for your reference at any time.

9. Display Messages/Troubleshooting

Display symbol	Condition/Cause	Corrective action
♥ Pulse symbol	Symbol appears in the measurement condition and flashes when pulse is detected.	Measurements in progress. Do not talk or move.
Battery symbol	Appears when the battery voltage is excessively low.	Replace all two batteries with new ones.
Measuring error symbol ERROR	Appears when the accurate blood pressure could not be obtained.	Press "START/STOP" button again and re-measure. Or check cuff if wrapped properly around the wrist according to instructions. Check palm if exerting effort. Check if there was movement during measurement. Check if posture is correct.
Measuring blood pressure symbol	Appears all the time till the measurement is completed.	

Note: If "EP" appears on the display, just return the device to your local distributor or importer.

10. Specifications

Model Number	TV3649
Method of Measurement	Oscillometric
Range of Measurement	Cuff Pressure Range 0 ~ 300mmHg Blood Pressure Range 40 ~ 280mmHg Pulse 40 ~ 199 beats/minute
Accuracy Calibration	Pressure +/- 3 mmHg, Pulse +/- 5%
Inflation	Automatic inflation (Air Pump)
Deflation of Pressure	Automatic air release control valve
Exhaust	Automatic exhaust valve
Display	Liquid Crystal Display
Unit Dimension	70 x 72 x 29 mm (L x W x H)
Unit Weight	Approx. 99 g
Sets of Memory	99 set
Cuff Size	Wrist circumference approx. 135 ~ 195 mm
Operating Conditions	50 °F (10 °C) ~104 °F (40 °C), 15% ~ 90% RH
Storage/ Transportation Environment	-4 °F (- 20 °C) ~ 158 °F (+70 °C), ≦ 90% RH
Power Supply	AAA (1.5 V) Alkaline battery x 2 (Not Included)
Battery Life	Approx. 250 times measurement
Accessories	Instruction manual, carrying case

These specications are subject to change without notice for purpose of improvement.